The Maryland Landowner Incentive Program

Approved Practices

Habitat conservation practices for the Landowner Incentive Program were chosen based on its potential and effectiveness to maintain or restore unique habitats for species at risk in Maryland. The following is a list of approved practices and cost for projects under the LIP:

Reforestation of contiguous forest; restoration of native plant communities

Practice description: Reforestation of contiguous forest will be used to increase the size and connectivity of mature forest stands. Therefore, sites to be reforested will be adjacent to or connecting existing forest stands, and species chosen for planting will reflect native species composition of these existing forests. Practice involves planting native tree species by hand (for some sensitive habitats) or using a mechanized planter attached to a tractor. Site preparation prior to planting may include mowing, brush hogging plowing, disking, and/or herbicide application. Seedlings will be primarily supplied by MD DNR state forest tree nursery. Tree shelters and/or mats may be installed when seedlings are planted. A cover crop may be planted to control weed competition. In the 2 years following planting sites will be mowed at least twice a year. Selective herbicide application may be used to control weed competition during this period.

In some cases, native herbaceous and/or shrub plantings may be used to restore native non-forested plant communities. These sites will generally be small and localized, and planting will be done by hand. Plant sources will either be on-site or from native plant growers. Where necessary, fences may be used to exclude deer or livestock from plantings.

Establishment of forested and grassland buffers

Practice description: Riparian and wetland buffers will be established to protect streams and wetland aquatic habitat, and to provide foraging habitat for species at risk. Buffer plantings will generally extend up to 1000 ft from the stream or wetland but no maximum width is specified. Minimum buffer width will be determined by the potential nutrient or sediment load from the adjacent land or, for foraging habitat, the suggested width of riparian forest. Buffers will consist of native trees, shrubs, or warm-season grasses, or a combination of these species in zone plantings. Choice of buffer type will be determined by site characteristics and the specific habitat needs of aquatic and/or terrestrial species at risk. A shrub and/or warm-season grass strip may be planted next to the forest buffer in the outer zone adjacent to agricultural or developed land to filter nutrients and sediment. Site preparation activities prior to planting may include mowing, brushhogging, plowing, disking, and/or herbicide application (with an herbicide appropriate for use near water). Seedlings will be supplied by MD DNR state forestry tree nursery. Tree shelters and/or mats may be installed at time of planting. In the 2 years following tree planting the site may be mowed in summer and fall, dependant on the project description. Selective herbicide application may be used to control weeds during this period. For warm-

season grass planting a nurse crop may be planted with seed the first year. Mowing may be permitted once a year in fall after grass has become established.

Establishment of contiguous warm-season grassland

***Practice description**:* Native warm-season grasslands will be established to provide habitat for native grassland species at risk. Grass species include big bluestem (*Andropogon gerardi*), little bluestem (*Schizachyrium scoparium*), switchgrass (*Panicum virgatum*), or indiangrass (*Sorghastrum nutans*). Other native herbaceous species may be planted with grasses. Site preparation may include mowing, brushhogging, and/or herbicide application. Application of lime or fertilizer may be necessary for some soil types. Seed will be planted at rates of 7-15 lbs/acre using a warm-season grass seed drill attached to a tractor. A nurse crop of winter wheat or other small grain crop may be planted along with seed to discourage weed growth. Site will be mowed (if no nurse crop is planted) the following spring to control weed growth. Maintenance activities for warm-season grasslands include mowing in fall or prescribed burning.

Invasive species control

Practice description: Invasive plant species control will be used alone or in conjunction with other habitat restoration and maintenance activities. Control of invasive species consists of several techniques, the use of which is determined by plant species and site characteristics (i.e., upland or wetland). The table below summarizes these techniques.

Type of Invasive Species	Manual Control	Chemical Control
Herbaceous (e.g., mile-a-minute, garlic mustard, Japanese stilt-grass, Japanese knotweed, phragmites)	Pull or dig up (only for small infestations or very sensitive habitats where spraying is inadvisable); burn using flamer (cost variable)	Ground spraying using boom attached to tractor or ATV (MD WHIP cost $75/acre), or selective spraying using backpack sprayer; wet glove application (for phragmites or other species in sensitive habitats; cost variable)
Woody shrubs (e.g., autumn olive, multiflora rose, bush honeysuckle, Japanese knotweed)	Dig up plants by hand; bush hog or mow using mechanized attachment on tractor or ATV, with subsequent removal of material; drum chopper attached to tractor or brontosaurus (MD WHIP cost $450/acre)	Glyphosate, triclopyr; Cut basal stems and spray/paint stumps with 2-3% glyphosate; spray foliage or apply to foliage with sponge (MD WHIP cost $1500/acre)
Trees (e.g., tree-of-heaven, Paulownia, bamboo)	Cut down mature trees with chainsaw or girdle bark and leave standing; cut saplings with brushhog or drum chopper attached to brontosaurus or tractor (MD WHIP cost $450/acre)	Cut cambium and spray or girdle and paint with glyphosate or triclopyr; spray sucker growth the following year with glyphosate or triclopyr; cut basal stems and spray/paint stumps (MD WHIP cost $1500/ac)

Vegetation Management

Practice description: Removal of encroaching woody vegetation, either native or nonnative, to create early successional conditions in seepage wetlands, Delmarva bays, or glades; or understory removal and thinning in Coastal Plain mature forests to increase habitat quality for Delmarva fox squirrel. Vegetation management may involve brushhog or drum chopper, herbicide application, or removal by hand in sensitive habitats (see invasive species control table above).

Restoration of wetland hydrology

Practice description: Restoration of wetland hydrology, either by removal of blind ditches (through crushing of drainage tiles), plugging of ditches, and/or removal of earthen berms. This practice will be used specifically to restore hydrologic fluctuations in Delmarva bays and characteristic hydrologic conditions of seepage wetlands and fens. Special low-ground-pressure equipment will be used in wetlands where needed to limit soil disturbance. This practice will be limited to sites where wetlands previously existed.

Livestock exclusion and fencing

Practice description*:* Installation of single-strand electric or multiple-strand high-tensile fence (electric or nonelectric) in pasture or grazed woods to keep cattle out of streams, wetlands, and other sensitive habitats. Single- or double strand electric fence may be used as moveable fencing when some periodic grazing of habitat is allowable. High-tensile fence will be used when livestock are permanently or critically excluded from habitat. Installation of high-tensile fence requires post-hole digging. Choice of fence type will also depend on type of livestock and landowner preference.